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# Corporate Overview

- **Founded in 1947**
- **Over 700,000 sq. ft.** of repair, office, and inventory space.
- **Over 650 employees** comprising an engaged workforce committed to continuous improvement through open communications.



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# Corporate Overview

- Headquartered in Evansville, Indiana with Satellite Repair Facilities In:

Longview, Texas

Lakeland, Florida

Safford, AZ

Marion, Illinois

Casper, Wyoming

Antafagasta, Chile SA Mackay, Australia

- US Field Office Locations:

Mesa, AZ

Tucson, AZ

Bath, NC

Jackson, MS

Louisville, KY

Atlanta, GA

Round Mt., NV

Gillette, WY

Elko, NV

Salt Lake City, UT



- International Field Offices:

Edmonton, Canada

Mumbai, India

Rabat Morocco

Mackay, Australia

Mpumalanga, S. Africa

Antofagasta, Chile



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# Operations

- Three-shift operation assures **fast, economical turnarounds.**
- Entire workforce averages over 9 years with Flanders.
  - Experienced craftspeople are crucial when considering the critical nature of large motor repair.
- Major departments are localized.
- **Trucking Fleet**





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# ISO 9001:2008

**Flanders Electric will provide its customers with the highest caliber of repair, engineering, and manufacturing services available. This objective shall be realized through:**

- Continual Quality **Improvement** through the ISO Process
- Monitoring Customer **Satisfaction**
- Using qualified **Vendors** to provide the highest quality materials
- Hiring and Ongoing Education of the Best Available **Employees**
- **Cooperation** Between All Flanders' Employees to **Exceed Our Customer's Expectations**



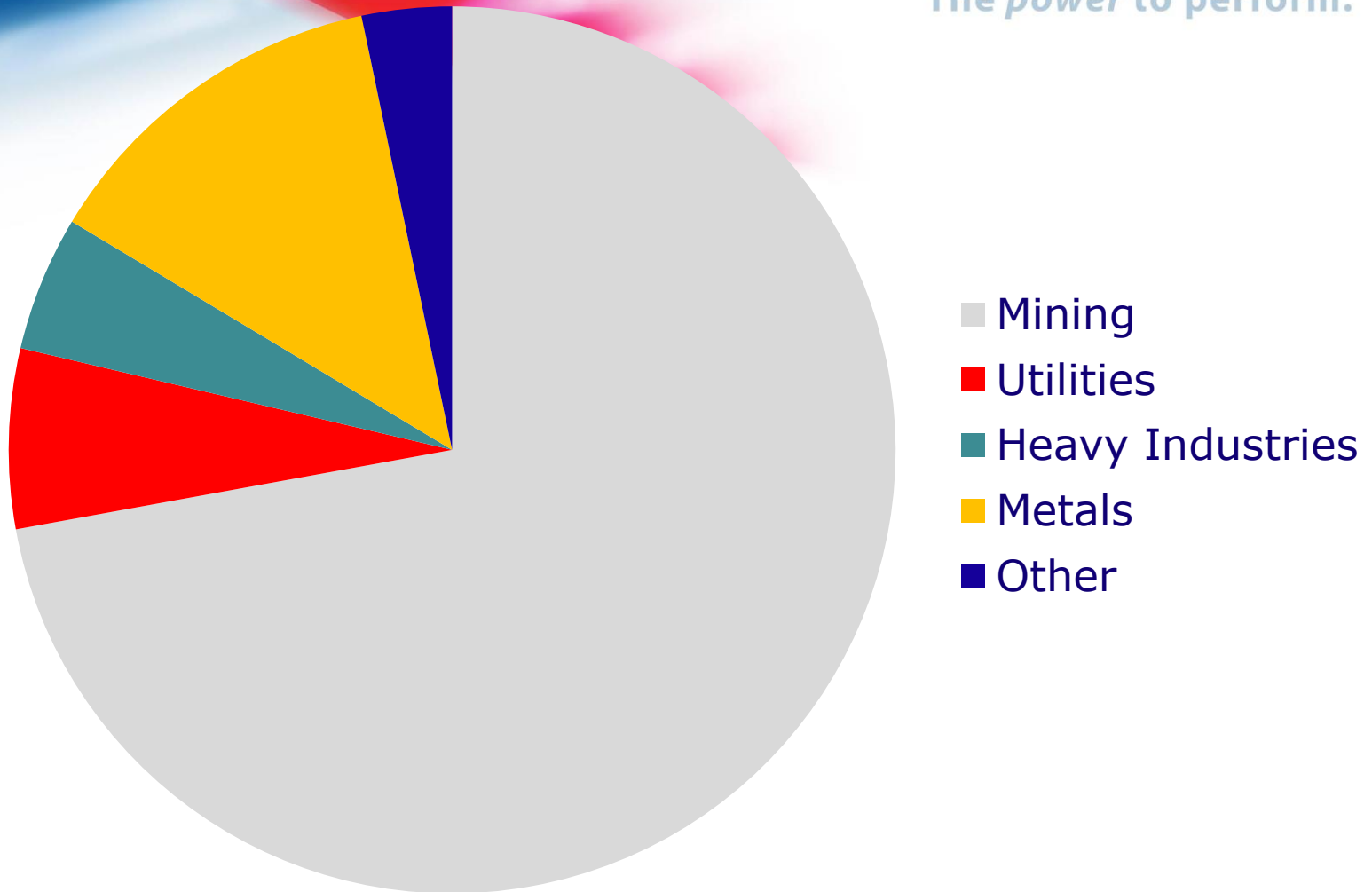
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# Quality Management System

- Developed by experienced Flanders employees to ensure the **highest quality repairs**, new motors, and engineering services.
- Job workflow paperwork helps ensure **attention to detail**, with accurate record keeping.
- Systematic workflow process outlined in the QMS ensures effective communications with customer if questions arise.
- Full-time customer service employee communicates job requirements to repair areas.

## Sales Volume

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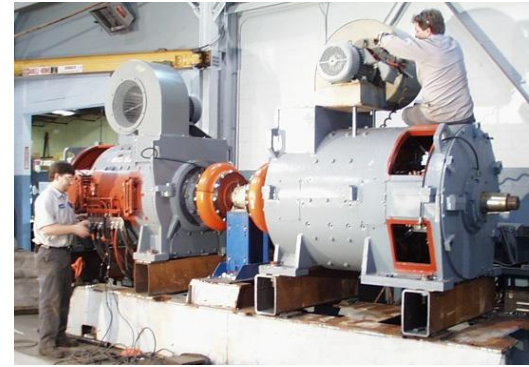




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# Test Center

- Designed and built at Flanders Electric
- AC voltage testing to 13.8KV.
- Variable frequency testing to 1000 Amps at 480 VAC.
- DC armature testing to 900 VDC
- RTD temperature monitors and recorders.
- Isolated base ensures accurate vibration readings.
- Full load testing of AC and DC motors.
- Mechanical and electrical test results are recorded and available to customer.
- Customized test reports to meet customer specifications.





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# Test Center (cont.)

- 5.1 MW 4160VAC Diesel Generators to increase testing capacity
- Operational at 60 or 50 Hz



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# NEMA Frame Motor Repair

- Separate facility dedicated to NEMA frame AC and DC motor repair.
- Experienced workforce working 3-shift operation.
- Dedicated shop manager with over 15 years of experience.
- ISO 9001:2008 registered.
- Quality management system for NEMA size repairs.
- Counter Sales Area





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# AC Mechanical

- Responsible for initial evaluation, disassembly, cleaning, reassembly, testing, and final QC checks in accordance with the structure outlined in Flanders QMS.
- Extensive experience in rebuilding large synchronous and vertical motors.
- All motors must pass full voltage test run, vibration analysis, and heat-rise test before shipment.
- Department coordinator has over 30 years' experience at Flanders in large AC machines.





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# DC Mechanical

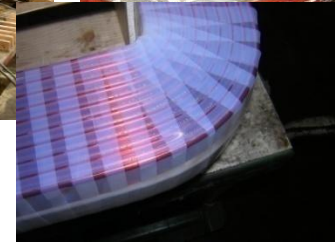
- Responsible for initial evaluation, disassembly, cleaning, reassembly, testing, and final QC checks in accordance with the structure outlined in Flanders QMS.
- Extensive experience with large DC motors utilized in metals industries, mining, and heavy industries.
- All motors must pass full voltage test run, vibration analysis, commutation analysis over speed range, and heat-rise test before shipment.



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# Coil Manufacturing and Winding

- DC HIPOT capability to 60,000 VDC for large armatures
- 30,000 volt surge comparison test capability for large armatures and high voltage AC motors
- Winding redesigns and upgrades
- Synchronous motor field coil enhancements, wet winding between coil layers, mechanical enhancements
- VPI type main field coil insulation system for DC motors

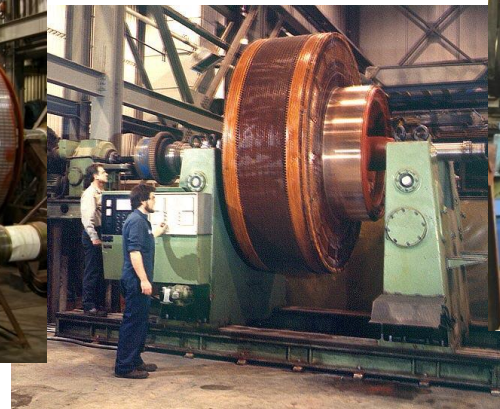




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# Machine Shop

- Laser lamination manufacturing for field coils, armature laminations, and stator laminations
- Dynamic balancing capability to 100,000 lbs
- Precision balancing for roll grinder applications
- Automatic undercutting equipment for commutators

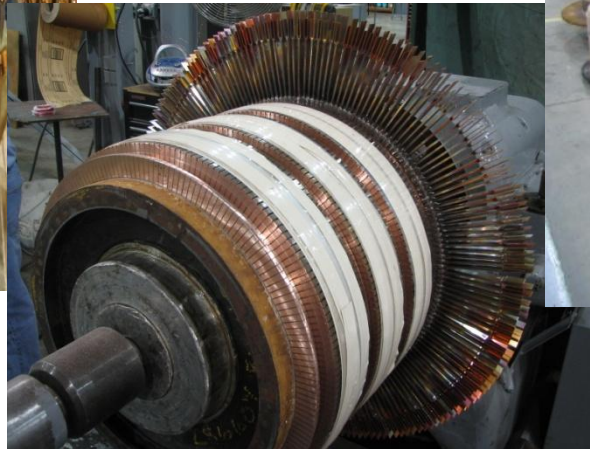




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# Commutator Department

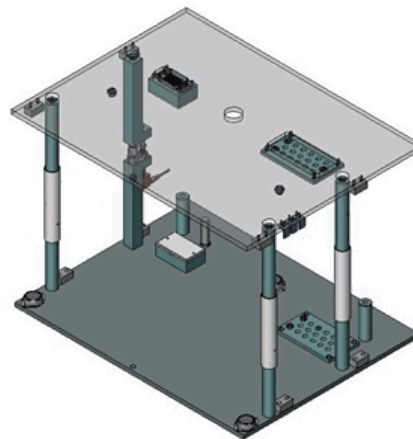
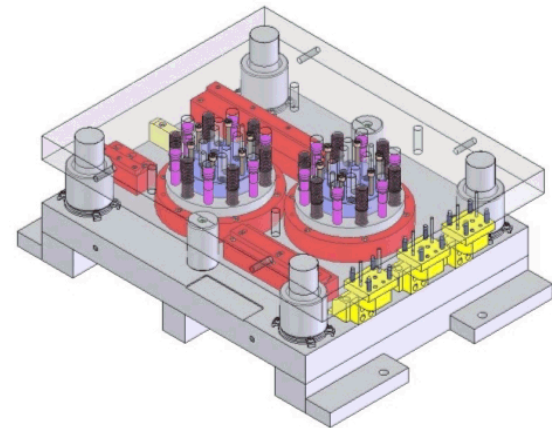
- Fadal CNC Mill for machining Comm. Bars
- 150 Ton Press
- 52 inch Boring Mill
- Spin Seasoning of Comms.



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# Triplet Tool & Die

- Die & Automation
- Automated Equipment Workcells
  - Standard Workcells
  - Robot Workcells
  - Aimer Workcells
  - Die Sets
  - Specialized Tools





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# Field Service Division

- State-of-the-art test equipment
- Separate workforce specializing in motor field services
- On-site reconditioning (dry ice, solvents)
- Complete PM programs for critical motors with customized reporting
- PDMA trending
- Infrared Thermography
- Dynamic rotor bar analysis
- Vibration monitoring and trending
- Laser alignment
- On-site turn and undercutting





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# New Product Sales

- **Motors**

- Siemens
- Toshiba
- Baldor/Reliance
- Marathon

- **AC & DC Drives**

- Siemens
- Reliance
- Toshiba
- Benshaw

- **PLCs**

- Siemens

- **Controls**

- Siemens

- **Switchgear**

- Siemens
- Toshiba

Flanders provides application assistance, systems integration, and on-site assistance for all products sold.

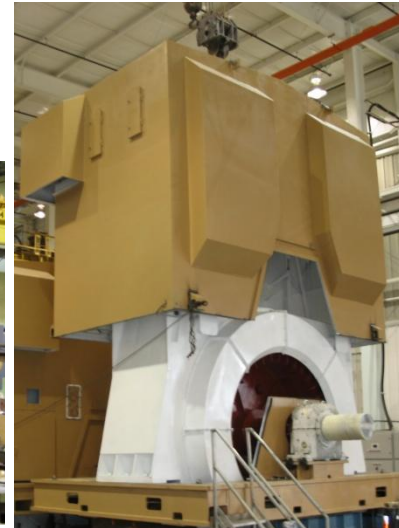
Flanders provides warranty service for all products sold.



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# Custom Motor Manufacturing

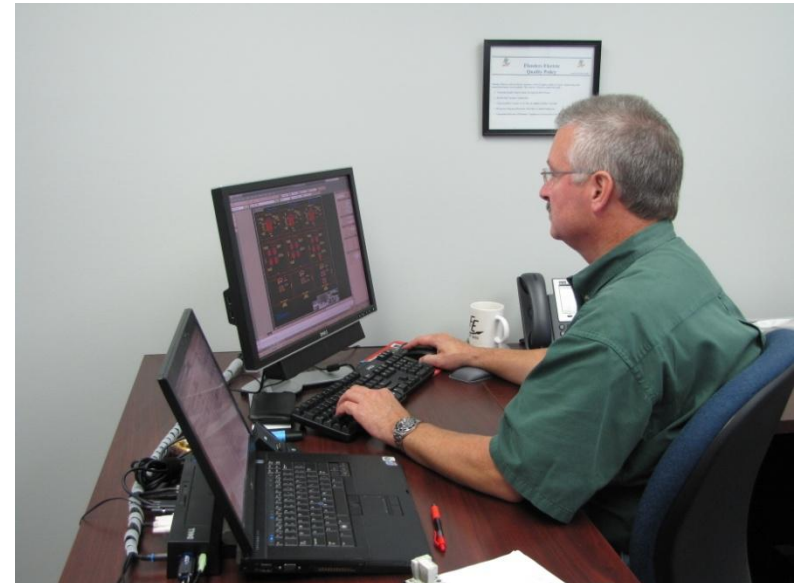
- ISO 9001:2008 registered design process.
- Custom-designed AC and DC motors and generators
- All designs done by Flanders Electric engineering division and manufactured in the Evansville facility.
- Drop-in replacements for older designs, and new designs.



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# Flanders Electric Engineering Division

- Systems Integration
- Digital Drive Retrofits
- Custom Controls Design and Manufacture
- Switchgear Design
- Field Engineering Services
- Training
- ISO 9001:2008 Registered Design Process
- Over 50,000 Sq. Ft. Facility in Evansville
- 40+ Engineers, Technicians, and Customer Service Employees
- Provides Technical Support for Motor Repair Division





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# Custom Controls

- Synchronous Motor Controls
- Reduced Voltage Starters
- Wound Rotor Starters
- MG Set Controls



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# AC and DC Drive Retrofits

- Siemens solution provider
- Reliance
- Toshiba
- Avtron
- ABB





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# System Integration Capabilities

- PLC and PC based
  - Siemens
  - Rockwell ("AB")
- Networks/Certified Profibus engineers
- HMI integration
  - Siemens WinCC
  - Intellution
  - Wonderware
  - Citect



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